

Nuclear Division News



A Newspaper for Employees of the Nuclear Division, Union Carbide Corporation

Vol. 7, No. 8/April 15, 1976

To include X-10, Y-12 areas

Family Day set at ORNL

Plans for Oak Ridge National Laboratory Family Day 1976 are in full swing, and the dates tentatively selected for this program are Saturday, May 8 (X-10 area only) and Saturday, May 22 (Y-12 area only).

In recent years, Family Day events have proved to be one of the most popular and effective means of acquainting employees and members of their families with the overall program and the various facilities at ORNL. More than 5,000 persons visited the X-10 area during the last Family Day, which was held October

13, 1974. The following Saturday, October 19, 500-plus visitors were welcomed at the ORNL facilities in the Y-12 Plant.

Employees should plan to wear badges in all areas in which they are normally required.

A committee of representatives from each division is making plans for ORNL Family Day 1976. Features will include guided tours, demonstrations, displays, and exhibits depicting the various activities conducted at ORNL.

For information about Family Day, contact one of the following division representatives:

Public Relations, David Sundberg and Karen Cromer
Analytical Chemistry, Gerald Goldberg
Biology, Don Stallions
Chemical Technology, V. A. DeCarlo
Chemistry, Paulette Hall
Computer Sciences, Sherrill O. Smith
Employee Relations, John C. Dougherty
Energy, Ralph Greene
Engineering (ORNL), Ray M. Evans
Environmental Sciences, Jack Griffith
Finance and Materials, W. O. Graves
Health, Gerri Sands
Health Physics, Wilma Nichols
Information, Helen Kuhns
Inspection Engineering, P. S. Lee
Instrumentation and Controls Division, Walter Kinser
Laboratory and Personnel Protection, W. F. Spencer and Gene Connor
Liquid Metal Fast Breeder Reactor, June Redmond
Metals and Ceramics, W. H. Miller and W. H. Elliot
Neutron Physics, H. A. Todd
Operations, Eugene Lamb
Physics, M. L. Mallory
Plant and Equipment, D. Brogan
Reactor, Jack Smith
Solid State, J. T. Howe
Thermonuclear, Harold Jernigan
Y-12 Plant, W. Y. Gissel



PICNIC AREA — The main picnic area of Clark Center Recreation Park is the scene for many plant functions. Control of the Park will be assumed by the Tennessee Valley Authority, probably in the fall.

TVA to assume control of area including park

The Energy Research and Development Administration and the Tennessee Valley Authority have reached an understanding for transferring acreage in Oak Ridge — including Clark Center Recreation Park — currently under ERDA control to TVA for regional recreational development. The transfer will probably take place this fall.

The property consists of approximately 1,070 acres of land on Melton Hill Lake within the city limits of Oak Ridge and encompasses about 285 acres presently devoted to Clark Center Park.

Additional facilities

TVA is acquiring the property to develop a regional park for general public use. It is anticipated that the development will provide additional recreational facilities which are needed on the Melton Hill Lake reservoir.

The Clark Center Park area was established in 1964. It is estimated that approximately \$150,000 in federal funds have been spent on its development and maintenance.

Part of the Tennessee Valley Authority's mission is to provide, in cooperation with state and local governments, recreational opportunities for the region's residents. Growing use of the park has made maintenance increasingly difficult and expensive. Since the park is located on federal property and was developed and maintained with

federal funds, there has been increasing interest by many individuals and groups outside of Carbide for use of the park facilities. It is anticipated that TVA operation of an expanded park area will enable the present and future facilities to be used by any and all persons on an equitable basis.

Baseball park retained

While TVA will have control over the area, the Nuclear Division will continue to retain control of the baseball park for use in plant leagues.

TVA, subject to approval of the TVA Board, will prepare an order providing for the transfer of the Oak Ridge property, with the approval of the General Services Administration and the concurrence of ERDA. Such direct transfers of TVA reservoir properties are provided for in the TVA Act of 1933.

Daylight saving

That hour we gained last October will be lost again Sunday, April 25. Clocks will be advanced one hour at 2 a.m. to make way for Daylight Saving Time.

Employees working the third shift Saturday night in the four plants will clock in on Standard Time and clock out Sunday morning on Daylight Saving Time.

Unless changed, Daylight Saving will continue through the last Saturday in October.

inside ...



The Children's Museum in Oak Ridge will celebrate the Bicentennial next weekend with a three-day festival. Rosie Eby, wife of Raimon Eby, Y-12, readies "out-of-the-past" food for the occasion. Complete story is on page 4.

Other features in this issue include:

- Bill Thomas promoted page 3
- Question Box page 5
- Miller, spelunker page 6
- Dr. Lincoln page 7

nuclear division news

**UNION
CARBIDE**

James A. Young, Editor
Ext. 3-7100
Carol Grametbauer, Assoc. Editor
Ext. 3-6266
Keith Bryant, Paducah
Bell 369
Doug Carter, ORGDP
Ext. 3-3434

UNION CARBIDE CORPORATION
NUCLEAR DIVISION
—Member—
INTERNATIONAL ASSOCIATION OF
BUSINESS COMMUNICATORS

Office
Post Office Box Y
Oak Ridge, Tenn. 37830

Y-12 lists six promotions

Six recent promotions have been announced in the Y-12 Plant.

Robert H. Angel, Metal Preparation, has been named a process supervisor. A native of Rockwood, he has been with Union Carbide 25 years. Before joining Y-12, he was with the Stitzel-Weller Distillery.

Angel lives at Route 5, Harriman, with his wife, the former Doris Satori. They have four children, Robert R., Richard, Alana and Roy.

David E. Bailey has been named a fire and guard lieutenant in Plant Protection. Born in Brent, Ala., he came to Y-12 in 1942.

Mrs. Bailey is the former Mildred Elam, and the couple lives at 102 Norwood Lane, Oak Ridge. They have two children, Patricia and Karen.



R. H. Angel



D. E. Bailey

Donnie W. Burney has been promoted to a fire and guard captain in Plant Protection. A native of Nashville, he worked with Modine Manufacturing and Magnavox Manufacturing before joining UCC in 1968.

Mrs. Burney is the former Linda Goodman and they live on Dyllis Road, Oliver Springs. They have a daughter, Melody.

Robert S. Butler is a new process supervisor in Metal Preparation. Born in Roane County, he worked with the Roane Hosiery Mill before joining UCC in 1967.

Mrs. Butler is the former Margaret Lamance and they live at Route 2, Oliver Springs. They have three sons, Edwin, Charles and Randy; and two daughters, Mona and Becky.

Joel F. Jennings was recently promoted to fire protection systems supervisor in Plant Protection. He has 29 years of company service, having joined UCC at the Oak Ridge Gaseous Diffusion Plant in 1946, and transferring to Y-12 in 1963.



D. W. Burney



R. S. Butler



J. F. Jennings



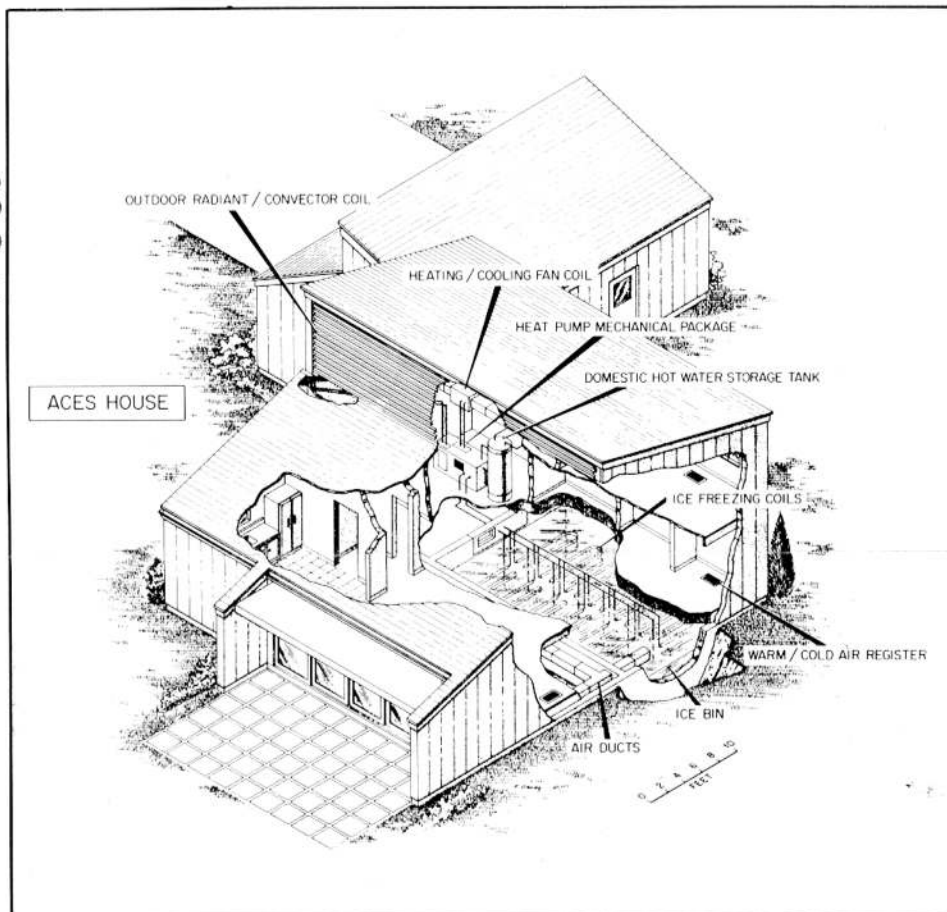
S. C. Voorhees

A native of Powell, he served in the U. S. Army during World War II.

He lives at Route 3, Cruze Road, Powell.

Steven C. Voorhees has been named an engineer in the Engineering Division. A native of Alton, Ill., he holds a B.S. degree from The University of Tennessee and is presently working toward his master's degree. He worked with Dempster Brothers, Rohm and Haas and Caterpillar Tractor Company before joining UCC more than five years ago.

Mrs. Voorhees is the former Doris Marmon. They live at 142 Kentucky Avenue, Oak Ridge, and have three children, Keith, Christina and Victor.



ARTIST'S CONCEPT — This is an artist's concept of the ORNL-designed Annual Cycle Energy System (ACES) house under construction on University of Tennessee property, south of Knoxville. The demonstration house is part of an energy conservation project in which the Tennessee Valley Authority, the Energy Research and Development Administration, the University and the state are participating. Although no ACES systems are available for purchase at this time, information is being shared with commercial manufacturers interested in making such equipment. The first in a series of industrial workshops was held last fall to provide architects, heating and refrigeration engineers, manufacturers, builders, government agencies and mortgage bankers with data on which they can base future building plans. Completion of the ACES house is expected later this summer.



ICE-COLLECTING COILS — Van Brantley, Oak Ridge National Laboratory's Reactor Division, checks the ice-collecting coils made for installation in the energy bin of the ACES demonstration house. The aluminum coils were made in a Y-12 Plant shop.

division deaths

Ralph H. Norman, Y-12's Research Services, died in the Oak Ridge Hospital March 27. A native of New Market, he was a pipefitter, joining Union Carbide in 1951. He was business agent for the United Association of Pipefitters Local 718 and was past president of the local. He held offices in the Atomic Trades and Labor Council and the Central Labor Union of Roane and Anderson Counties. He also served on the advisory board of the Training and Technology project in Y-12.



Mr. Norman

Survivors include his wife, Helen Roberts Norman, 106 Edgehill Lane, Oak Ridge; a son, Philip J. Norman; two daughters, Sharon Berry and Carol Russell; three grandchildren; a sister, Mrs. William F. Johnston; and a brother, C. Millard Norman.

Funeral services were held at Weatherford Mortuary with the Rev. J. Robert Smith officiating. Burial was in Sunset Cemetery, Madisonville.

The family requests that any memorials be in the form of contributions to the American Cancer Society, c/o Mrs. Mary Aubuchon, 408 Greenwood Road, Clinton.

Frederick T. Howard, a consultant at Oak Ridge National Laboratory who was in charge of the Physics Division's Accelerator Information Center, died April 1 in his home.



Mr. Howard

Mr. Howard had worked for ORNL on a consultant basis since his retirement from the Physics Division staff in 1971. He came to Oak Ridge in 1943 with Tennessee Eastman Company and remained until 1945. He returned in 1949, working in what was then the Electro-nuclear Division.

He was a member of the American Association for the Advancement of Science and Sigma Xi honorary society.

He is survived by his wife, Jacinta Kampmeier Howard, 108 Norris Lane, Oak Ridge; a daughter, Phoebe

Howard; a son, Thomas F. Howard; and two sisters, Mrs. Ragnor (Elizabeth) Swanson and Mrs. Arvin (Esther) Hedstrom.

A memorial service was held April 5 at the Unitarian Church in Oak Ridge.

Lyle G. Rardon, Oak Ridge National Laboratory technician in the Metals and Ceramics Division, was killed in a car accident on March 25 about three miles south of Norris.



Mr. Rardon

A native of West LaFayette, Ind., Mr. Rardon came to Union Carbide in 1966. He had formerly served in the U. S. Navy aboard the atomic submarine Polaris. Survivors include his wife, Marilyn Rardon, and sons Gabriel and Lyle George Rardon II, 111 Orchard Rd., Norris; a daughter, Windy (Mrs. Eddie) Ballard; his mother and stepfather, Mr. and Mrs. Leo LaForte; two sisters, Mrs. Robert Mahlte and Mrs. Sandra Holderfield; and a stepbrother, Allen LaForte.

Burial was at Tippecanoe Memorial Gardens in West LaFayette.

Gordon F. Eddlemon, an electrician in Y-12's Maintenance Division, died April 7.

A native of Mascot, Mr. Eddlemon came to Y-12 in 1967. He had served in the U. S. Marines, and worked with Hughes Aircraft before joining Union Carbide.



Mr. Eddlemon

Survivors include his wife Sarah Rae McKee Eddlemon; a son, Jon; daughters, Jennifer and Melissa Eddlemon; stepsons, Charles P. Greene, Gregory Greene and Bradford Greene; a step-daughter, Cynthia Walker; four sisters, Nancy Harmon, Esther Lamm, Ruth Wyrick and Ginny Dagley; and two brothers, Joseph B. Eddlemon and George A. Eddlemon.

Funeral services were held at Weatherford's Mortuary, with the Rev. Frank Meredith officiating. Burial followed in the Anderson Memorial Gardens.

Will join or start CAR POOL from 272 Highland Avenue, Oak Ridge, to portal 4, straight day. Steve Grider, plant phone 3-3555.

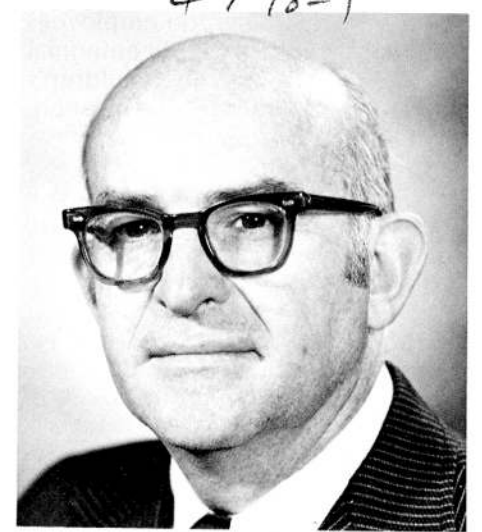
Thomas, Y-12 veteran, named to Paducah Plant position

William F. Thomas has been named Assistant Division Superintendent in charge of the fabrication shops and process maintenance at the Paducah Gaseous Diffusion Plant, according to Clyde C. Hopkins, Plant Manager. He succeeds L. A. "Tony" Dean, who has transferred to the Oak Ridge Gaseous Diffusion Plant.

A native of Orangeburg County, S.C., he is a graduate of the University of South Carolina, and joined Union Carbide in 1958 at the Oak Ridge Y-12 Plant. He transferred to the Stellite Division at Kokomo, Ind., in 1965 as chief engineer in specialty products.

In 1967, he became manager of shop operations in the Linde Division's Florence, S.C., plant, and has been manager of engineering, manager of plant services, manager of employee relations and plant services and manager of electric welding and power supply. In 1975, he was named manager of electric welding and organizational development at the Florence plant.

Active in civic affairs, he is vice president of the Florence Chamber of Commerce, on the United Way Board of Directors and served as vice presi-



William F. Thomas

dent of the 1975 UW campaign. He has been active in the YMCA, the School Study Task Force and the Governors Management Review Commission.

Mrs. Thomas is the former Bernez Patterson, and they have three children, Gill, W. F. "Will" Jr. and Phyllis. They will live at 4021 Valley Lane, Paducah.

retirements



Hallau



Litton



Pollard



Turpin



Billings



Corser



Tippy



Wright

Three Y-12ers retire at the end of April.

James G. Hallau, Special Services Department, ends more than 18 years service. He lives at 106 Regent Circle, Oak Ridge.

Lecile C. Litton, A Wing Shop, joined Union Carbide in 1952. He lives at 150 Georgia Avenue, Oak Ridge.

Edward R. Pollard, Research Services, lives at 426 West Outer Drive, Oak Ridge. He came to Y-12 in 1950.

Lige A. Turpin, a pipefitter in Area 5 Maintenance in Y-12, retired March 31, after more than 31 years company service. He lives at Route 3, Oliver Springs.

John M. Billings, Operations Division at the Oak Ridge Gaseous Diffusion Plant, will retire at the end of April. He has been with Union Carbide since 1946, and lives at Route 5, 9 Long Drive, Harriman.

James V. Corser, Fabrication and Maintenance at ORGDP, retired at the end of March to his Route 5, Lenoir City, home. He has been with UCC almost 25 years.

Ryburn R. Tippy, Finance and Materials Services supervisor, retired at the end of February from ORGDP. He lives at 102 1/2 Meadow Road, Oak Ridge. He came to Y-12 in 1944, transferring to ORGDP in 1958.

John R. Wright, Maintenance Division at ORGDP, will retire the end of May, after more than 31 years company service. He lives at Route 2, Kingston.

Garland C. Fugate will retire the end of May, and Phyllis H. Smith retired the end of March, both from ORGDP. Their retirement dates were switched in the last issue of Nuclear Division News.

wanted

ORGDP

Will join CAR POOL from Caryville, Jacksboro, LaFollette areas, to Portal 4, straight day. E. R. Tapp, plant phone 3-3267, home phone LaFollette 562-9608.

RIDER from Fox Den-Dixie Lee Junction area, Knox County, to Portal 2 or 4, straight day. Plant phone 3-9531, home phone Knoxville 986-3152.

RIDERS from West Knoxville area, to Portal 1, 2, 3, 4 or 6, straight day - 7:45 or 8 a.m. shift. Charlie Hinton, plant phone 3-9661, home phone Knoxville 693-7502.

safety scoreboard

Time worked without a lost-time accident through April 8:

Paducah	10 Days	100,000 Man-Hours
Y-12 Plant	33 Days	985,000 Man-Hours
ORGDP	22 Days	797,526 Man-Hours
ORNL	149 Days	2,880,767 Man-Hours

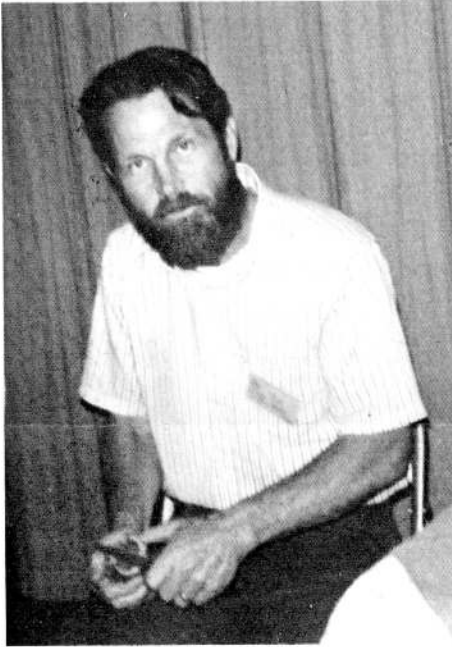
Bicentennial celebration set next week, Children's Museum

Many Nuclear Division employees are involved in the big Bicentennial weekend set at the Children's Museum of Oak Ridge. The museum is celebrating the "Spirit of '76: Reflections - Projections."

An "old-time fiddlin' contest" will kick off the activities on Friday, April 23, with top musicians from all over East Tennessee participating in categories which include: senior fiddler, junior fiddler, banjo, mandolin, senior and junior guitar, harmonica and other group competition. Johnny Pirkle, WOKI, will emcee the program, which includes clogging by students of the Oliver Springs Elementary School.

Show and sale

Friday will also include a Bicentennial Antique Show and Sale, with booths prepared by dealers from the



WOOD CRAFTSMAN — Bill Henry, ORNL, well-known local wood craftsman is the Bicentennial chairman of the Foothills Craft Guild. He is coordinating craft demonstrations for the April 23, 24 and 25 week-end at the Children's Museum.

East Tennessee area. Those wishing to show wares should contact the museum as soon as possible to reserve space.

There will be a "Play Party" — as it was known in the early days of Appalachia, a community get-together with fiddle playing, games and dancing, along with the singing of traditional ballads, shaped note hymns, etc. Registration for the contest is at 6:30 p.m.; the Party will open to the public at 7 and continue through 11 p.m.

Saturday, April 24, will feature "The Celebration," getting underway at 11 a.m. Following the city-wide parade, floats, etc. the crowds will be directed to the Children's Museum on West Outer Drive. The Boy Scouts will be in charge of the flag program, and the Girl Scouts will present a fife and drum corp and color guard which will lead the guests into the gym of the Highland View Community Center, where the museum is located.

Music, crafts

The Foothills Craft Guild and others will be demonstrating their skills both inside and outside all day Saturday. Such early crafts as vegetable dyeing, apple butter making, spinning, hardanger (Danish embroidery) and many others will be performed for visitors all day.

The festivities include the Bluegrass music of Carl Bean and his boys, songs and skits by the Sweet Adelines, clogging and dancing by several groups and a Town Meeting at 2:30 p.m. to discuss issues of the day. John Rice Irwin, well-known historian, will act as master of ceremonies for the day.

Food reminiscent of the early Appalachian era, will be an important feature, as the Children's Museum Guild under the chairmanship of Sara Gillespie, will prepare food for sale in the cafeteria and outside. (Doesn't anyone really like sassafras tea?) The Youth Advisory Council members of the Museum and Oak Ridge High School



DISCUSS MUSEUM BICENTENNIAL — Selma Shapiro, wife of ORNL's Ted Shapiro, director of the Children's Museum, discusses the big weekend of April 23, 24 and 25 with Alex Stewart, Sneedville. Stewart is a master craftsman in the art of coopering (making barrels, kegs and churns). The festivities will center on the "Spirit of '76 — Reflections."

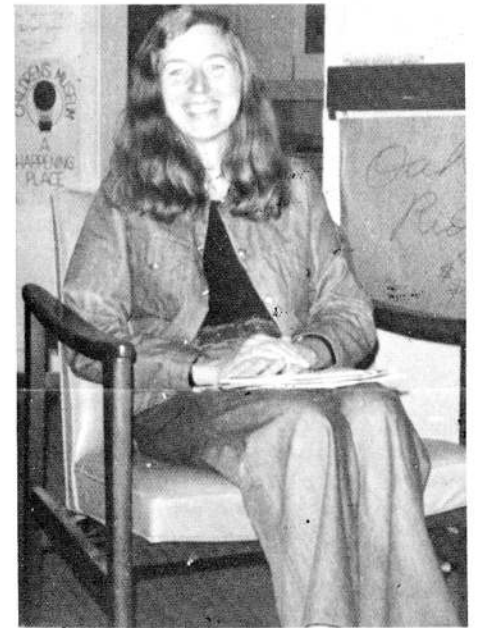
students will also have food available on the site.

Hobbies, collections

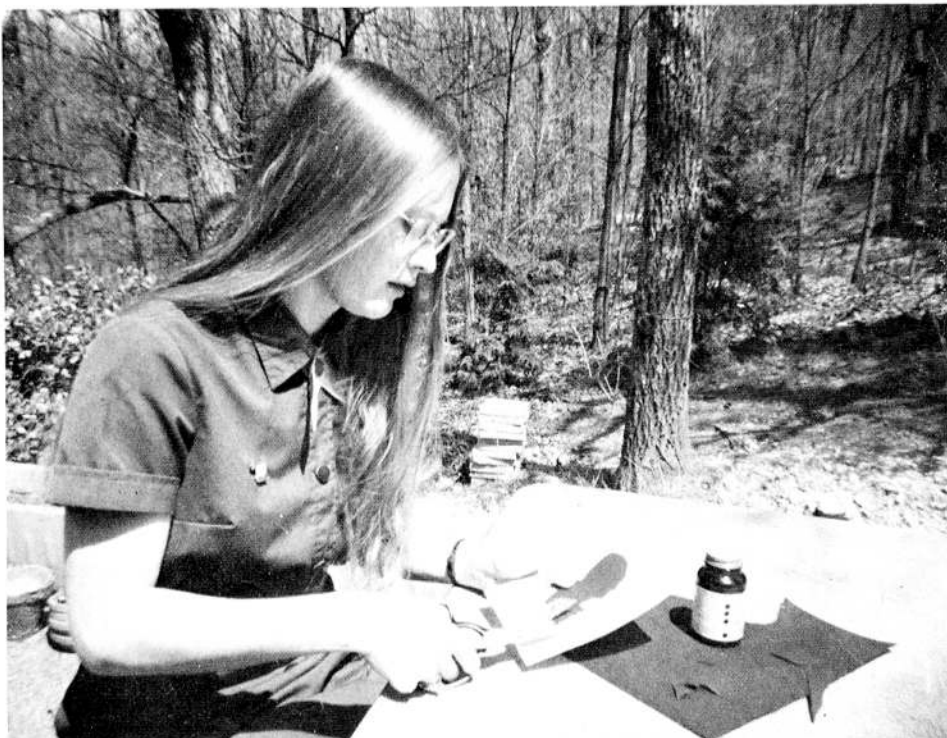
Dancing and music will continue after the 5:30 closing of the Town Meeting.

On Sunday, April 25, residents of the entire area will share their hobbies and collections, as the Museum presents "The Pursuit of Happiness - 200 years of Collecting." Categories vary from model railroad collections to miniature furniture, from handcrafted items to coins, from stamps to CB radios. Throughout the day there will be demonstrations by the Rocket Club and Model Railroad Club, as well as many others. Another Town Meeting is planned for Sunday, to discuss issues of the future.

It is a celebration to offer something for everyone. Tickets are \$2 for adults and \$1 for children, with a reduction of half price when purchased in lots of 10 or more ... also half price for members of the Children's Museum. Youth groups and school classes are encouraged to call the Museum ahead to arrange for group rates. Their telephone number is Oak Ridge 482-5116.



PAGING CRAFTSMEN — Sharon Fields, wife of David Fields, ORNL, is soliciting all craftsmen in the area to display their skills at the Children's Museum Saturday, April 24, as the area looks to its past.



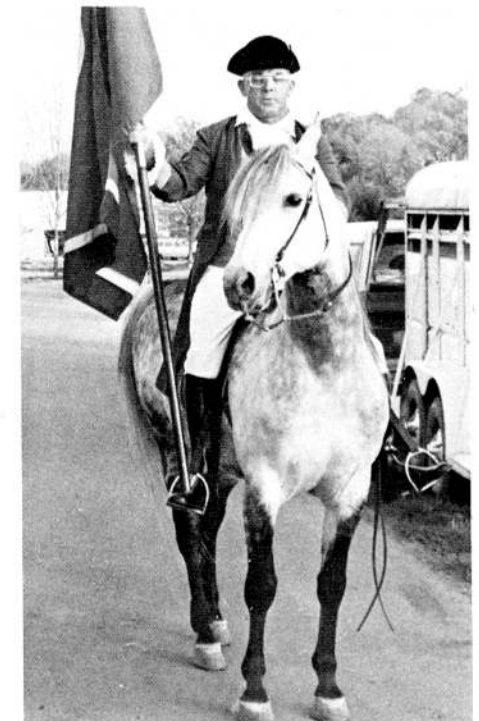
SPECIAL SILHOUETTES — Becky Schaeffer, daughter of the Stuart Dismukes (Dismuke works at ORNL), a member of Girl Scout Troop #69, prepares silhouettes to aid the Museum in its giant celebration next week-end in Oak Ridge.

North portal parking lot will be revamped

Extensive demolition has begun in the Y-12 Plant's North Portal. The remodeling has been made necessary because of the new building which will house the Waste Isolation Project headquarters.

The western end of the North Portal building is being razed this week, and the three rotogates in the rear have been removed from service. Alternate exits are Portal 7, Biology; and Portal 2, northeast of Building 9704-2. An additional rotogate will be installed at the fence line as soon as construction conditions permit.

With extra traffic and congestion in the parking lot, it is suggested that employees use extra care to avoid accidents in the area.



DAPPLE GREY — Everett Rogers, Y-12's TAT program, will ride his handsome dapple grey in the big parade. (Photo courtesy: Al Robertson, Knoxville Journal).

question box

If you have questions on company policy, write the Editor, Nuclear Division News (or telephone your question in, either to the Editor, or to your plant contact). Space limitations may require some editing, but pertinent subject matter will not be omitted. Your name will not be used, and you will be given a personal answer if you so desire.

Personal work on the job?

QUESTION: Whose work has priority in the Nuclear Division — personal work for management or Company business? When a secretary becomes "overloaded" with management's personal work, what recourse does she have? In addition to the Company time involved, there is excessive use of Company material (paper, envelopes, Xerox paper, etc.). Your comments, please.

ANSWER: We suspect some misinterpretation in your distinctions of Company versus personal work. Many managers are properly authorized to fulfill Company representation and responsibility in various civic, academic, and professional capacities. Otherwise, for strictly personal business, the use of Company time and materials is improper. You should discuss with your supervisor the issues of priority and propriety whenever you have doubt.

More on bid system

QUESTION: Why can't an unskilled, hourly employee be promoted to a weekly position when a craftsman can?

ANSWER: The weekly salaried Job Opportunity System is designed exclusively to provide promotional opportunities for weekly salaried employees, just as the job bid system contained in the collective bargaining agreements is designed exclusively for hourly employees covered by the agreement.

Any weekly job opening above Level 3 must be posted. First opportunity is given to qualified weekly employees. If there are no qualified weekly employees, the Company may fill the opening with a qualified hourly employee or a new hire. In selecting a person for the opening, the primary consideration is qualifications. If the weekly job to be filled requires qualifications that a craftsman might have, he/she would, in most cases, be selected over an unskilled person, whether an hourly employee or an outside applicant. We suggest you contact the Job Opportunity System Coordinator at your plant for more detailed information.

Visitor's parking misuse

QUESTION: Why are department heads and their secretaries, as well as General Staff secretaries, allowed to park in the restricted visitor space at Y-12? They even pull down ropes used before 8 a.m. to reserve this space for visitors.

ANSWER: The space you refer to is reserved for visitors and should not be used by others. Steps will be taken to prevent its use by others.

College and rotating shifts

QUESTION: I was interested in the question on adjusting schedules of work to fit educational plans. I am an hourly employee and wonder if there is any way to further my education (college) on a rotating shift. If it is possible to get on a straight shift assignment, do I do this through my bargaining unit or through supervision?

ANSWER: Hours of work and established shifts for the hourly employee are negotiated between the Company and the employee's bargaining agent and are specifically set forth in the Company-Union contract. Unless some special agreement covers the matter, an hourly employee can change from one shift to a preferred shift only by the operation of the shift preference provisions of the contract which are based on seniority. Your supervisor can advise you of prevailing circumstances in your case.

Reassignment possibilities

QUESTION: Would it be worthwhile to institute a policy that would permit weekly and monthly employees to seek re-assignment within the Division once every five years if it would benefit the employee and not adversely affect UCC-ND?

Some typical cases are: husbands and wives on different shifts; spouses at different plants; difficult physical requirements imposed on older workers; personality problems with supervision, etc.

Some potential benefits are greater work performance, energy conservation, and an opportunity to improve supervision-employee relationships.

ANSWER: There already exists a Nuclear Division policy to fill existing jobs whenever possible by promotion and/or transfer within or between installations. Several hundred such promotions and/or transfers are made each year. We do not consider it wise to institute, in addition, a formal policy, as you suggest, calling for reassignment "once every five years."

If you have a particular problem which you believe could be alleviated by reassignment, you should make this known to your supervisor and ask that he/she investigate the possibility of bringing this about.



WANTED

ORNL

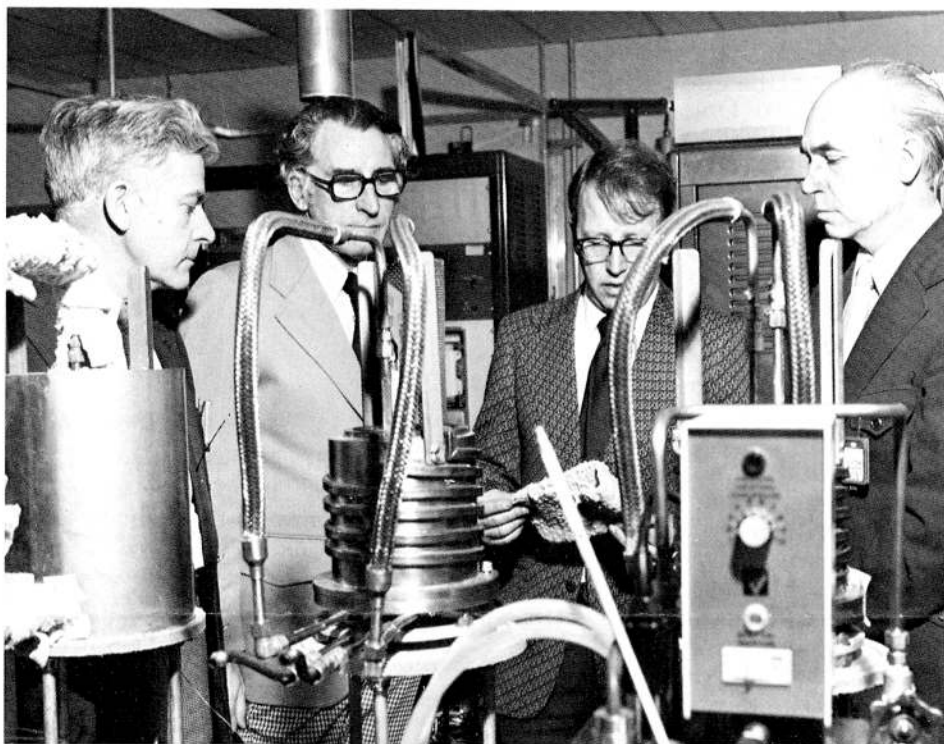
RIDE from 38 Outer Drive, Oak Ridge, to either portal, 8:00-4:30 shift. Linda Bayless, plant phone 3-1303, home phone 482-2532.

TWO CAR POOL MEMBERS from upper East Drive-California-Outer Drive area, Oak Ridge, to East Portal, 8:15-4:45 shift. J. C. Pigg, plant phone 3-1184, home phone 483-1792; or J. E. Parham, plant phone 3-0205, home phone 483-6921.

TWO CAR POOL MEMBERS from Woodland area, Oak Ridge, to East Portal, 8:00 or 8:15 shift. Mary Combs,

Insulation workshop held

1072-76



More than 80 insulation manufacturers, systems designers, installers, construction engineers, government representatives and local scientists participated in a workshop on thermal insulation in Oak Ridge, March 24. Results of a study conducted at ORNL on thermal insulation materials and their current applications in business and industry were presented and discussed during the workshop, which was coordinated by the Industrial Cooperation Office.

Ralph Donnelly, workshop chairman (top photograph), called the meeting to order. Other speakers, to his right, are Murray Rosenthal, ORNL associate director for Advanced Energy Systems; Carol Oen, Industrial Cooperation Office; and Robert Anderson, ERDA's Division of Buildings and Industries.

Several of the participants visited ORNL following the workshop. In the bottom photo, Dave McElroy, Metals and Ceramics Division, examines a piece of insulation material in the Division's physical properties laboratory. From left are Ronald P. Tye, Dynatech Research and Development Company; C.M. Pelanne, Johns-Manville Corp.; McElroy; and Richard K. Kirby, National Bureau of Standards.

plant phone 3-6731, or Elizabeth Howard, plant phone 3-6836.

ONE OR TWO CAR POOL MEMBERS to join pool now in its seventeenth year. From Hillside-Pennsylvania-West Outer area, Oak Ridge, to any portal, 8:15-4:45 shift. Contact Tom Burnett, plant phone 3-6939, home phone 483-1975, or Dick Strehlow, plant phone 3-1175, home phone 482-3240.

Y-12 PLANT

RIDERS wanted from vicinity of Inskip Road, Central Avenue Pike, or Norwood area, Knoxville, to East, North or Central Portal, straight day. J. F. Baker, plant phone 3-5935, home 947-3396.

Secretary-boss luncheon April 21

The Oak Ridge Chapter of the National Secretaries Association will observe Secretaries Day, Wednesday, April 21. A luncheon will be hosted by the Royal Scottish Inn between the hours of 11:30 a.m. and 1:30 p.m. Members of the chapter, as well as other area secretaries, are invited and may bring their bosses. Reservations for the luncheon should be made by April 19 through any of the following: Janice Varner, Y-12, extension 3-5577; Anne Caylor, ORNL, 3-6600; Ellen Queener, ORGDP, 3-9568; Martha Lyle, ERDA, 3-4636; Alease Hibben, Oak Ridge, 483-5671, extension 251; or Sadye Whitten, Oak Ridge 482-2481.

After hours — 'A different drummer'**Spelunking is his game**

"... Perhaps it is because he hears a different drummer. Let him step to the music which he hears, however measured or far away."

Recreation is different things to different people ... as the saying goes, "Different strokes for different folks," or as Thoreau penned it, "he hears a different drummer." We initiate a new feature with this issue of Nuclear Division News, giving employees a vent for their outside activities ... how they relax, unbend their minds, clean the cobwebs, or just pass the time.

We have lined up columns on marksmanship, folk dancing, hang gliding, figure skating, white water activities, flying, etc. The series begins with a treatise on the philosophy of spelunking. If you have an unusual method of relaxing, just let us know. We'll be happy to add your name and future article to the list.

Forest L. Miller Jr., a statistician in the Mathematics and Statistics Department of the Computer Science Division, joined Union Carbide in 1959. He has a Ph.D. from North Carolina State, and has been spelunking for about 17 years. Frosty and Mitzi, with their three sons, live on Sugar Grove Valley Road in Roane County.

By Frosty Miller

When an unsuspecting person finds out that I go caving, and after a stare of surprise, comes the inevitable question: "What about bats? Don't they get in your hair or give you rabies?" Which earns an answer ranging from, "Bats are real cuddly and have soft fur," to "Bats are an important part of our ecosystem," depending on my estimate of the seriousness of the conversation.

The bats in this area are useful creatures and eat their weight in insects each day of the spring, summer and fall. You can see bats flying around fields and other open areas at dusk or flying near street-lights at night if you look for them.

Bats have their backs to the wall these days, primarily because of habitat destruction, and two species are on the Tennessee endangered species list. All the cavers I know protect bats as best they can by staying away from nursery caves in the summer and hibernation caves in the winter. Conservation is a major theme in organized caving today, ranging from not littering, not breaking formations, etc., to the more positive approach of treating the cave as a fragile environment.

"Exploring wild caves requires great physical stamina and uncommon courage, for tortuous passages and stygian blackness constitute an environment inhospitable to man." — inscription at Mammoth Cave National Park.

If the idealized person mentioned above gets past my first answer and wants to continue the conversation, the next question is usually something like, "Why do you do it?" That's harder to answer because there are so many answers.



ALIEN HABITAT — Caves are not particularly conducive to good photography. You've never seen darkness like that, says Frosty Miller, spelunker supreme. Miller, a statistician in Computer Sciences, has been at the art of spelunking more than 17 years.

"Beautiful formations, gleaming masses of crystals, fantastically sculptured rocks."

If we set aside cavers whose professional interests are involved, most of the rest of us do it for fun, for relaxation, and sometimes for the challenge of it. It's a form of recreation, like stamp collecting, say, in which the goals can be rather precisely stated in simpler terms than we deal with in everyday life. Perhaps the analogy between building up a complete collection of XYZ's stamps and exploring and mapping a cave doesn't appeal to you, but I suggest that they have many elements in common — like a sense of strategy, accomplishments of intermediate goals, etc.

"What do you find in a cave?" Most of the time just the fun of exploring it. Occasionally, you find beautiful formations, gleaming masses of crystals, or fantastically sculptured rocks; or perhaps even virgin passages (passages that no one has been in before). It is quite a "high" to walk where no person has ever walked, to see things never seen before.

Usually the rewards are much more muted, the discoveries less dramatic — a cluster of formations in an obscure corner, an unraveling of part of the story of how a particular cave was formed, or observing one of the rare cave-adapted creatures as it goes through its ceaseless struggle for food.

recreationotes**Tee-Off Time Application for April 24**

(Check Appropriate Plant)

- ☐ ORGDP — Whittle Springs
- ☐ Y-12 — YMCA Center
- ☐ ORNL — Wallace Hills



LEADER _____

Phone _____

Bldg. _____

Time Preferred _____

COMPLETE AND RETURN TO YOUR RECREATION OFFICE

Entries must be received prior to drawing on April 21, 2 p.m.

ORGDP — Building K-1001 — C Wing — MS 122

Y-12 — Building 9711-5 ORNL — Building 2518

Tee-off times for all tournaments will be drawn on Wednesdays prior to each Saturday's tournament. Golfers are responsible for reserving their own carts by contacting the pro shop following drawing for tee-off times.

Y-12 bowling

The Rollers were crowned kings of the Y-12 Mixed League in a roll-off last week with the Friskies. The Rollers consist of Ann and C. R. Lively, George and Patty Reece and Johnny Sewell. They downed the Friskies by almost 300 pins, as Patty rolled a 521/638 series.

The Splinters hold down first place in the Classic League, three ahead of the Smelters. Roll-offs were set last week, also.

The Mini-Strikes hold a lead in the C League, as the Sunflowers and Rollmasters pose the only threat to their hold on top place.

"How about tight places? Aren't you afraid of getting stuck?" There are tight places in some caves, but the human body is remarkably flexible. The crucial dimensions seem to be hip width and chest thickness. You can even cheat a little on chest thickness by exhaling before you move.

Cavers differ widely in their approach to vertical work (the use of ropes to descend pits). Watching the glistening, fluted walls glide past gives you the sensation of being in another world. The other side of the coin, however, is the hard work required to climb back out.

"The sensation of being in another world."

Some cavers become so enamored of ropework that they get tired of the 200-500 foot drops available in Tennessee, Alabama and Georgia, and head for the big ones in Mexico. Pits like El Sotano de las Golondrinas, which is 1,090 feet deep, and El Sotano, where you get 1,340 feet of freefall (not against the wall) descent, are among the deepest known in the Western Hemisphere.

Although I enjoy doing an occasional pit, it is usually for the sake of exploring the cave below. Still, the thought of those deep pits pulls the mind and one can't help wondering what it would feel like to back over the ledge and know that there isn't anything but air below you for a quarter of a mile.

ORNL bowling

Robbie Robson set them afire recently in the C League, posting a 617 scratch series, 671 handicap count! His Remkeys hold a commanding lead in standings.

The ORAU team holds a decided lead in the A League, way out front of the Ten Pins. Paul Urso posted a 653 handicap series for his leading team.

The Mousechasers will probably take it in the ORNL Ladies League, as Brena Stevens hit a 226 scratch game recently for the Pickups. Margie Adair rolled a 570/681 series for the Spinners, too.

The Odd Balls have only a two-point lead in the Carbide Family Mixed League, over the Possibilities. The Joys, Judy and Dave, posted high scores recently, rolling scratch series of 543/586 respectively.

ORGDP bowling

The All Stars have the lead in the Tuesday League locked beyond any danger. C. J. Hinton, Explosives, rolled a single of 242/272 recently to pace individual bowlers.

The Wednesday League gives the Planners a slight edge, ahead of the Amps and Sues Sooners. C. F. Hale, Demons pushed a 246 through the alleys recently, and Troy Beets bested the crowd with a 623 series.

The Uptowners are still up in the ORGDP Women's League. Oleta Carden's 201, 161, 201 scratch series, for a total of 563 ... and a handicap score of 644 rocked the boards in late March.

Y-12 SAFETY AWARDS

Y-12ers will collect their awards for 1975's safety performance next Tuesday and Wednesday. Everything but the hamburger cooker is in, and distribution of that item will be made about mid-June. Hours of distribution on Tuesday, April 20, are from 2 to 5 p.m., and again on Wednesday, April 21, from 6:30 to 8 a.m., and from 2 to 5 p.m.

HOT WATER HEATERS

Don't overheat the water in your home; use the lowest temperature you can. Most people find that 110 to 120 degrees is about right.



Scared to death

by T. A. Lincoln, M.D.

(Editor's Note: Dr. Lincoln alternates his regular column with "The Medicine Chest," where he answers questions from employees concerning health in general. Questions are handled in strict confidence, as they are handled in our Question Box. Just address your question to "Medicine Chest," NUCLEAR DIVISION NEWS, Building 9704-2, Stop 20, Y-12, or call the news editor in your plant, and give him or her your question on the telephone.)

In the U.S. alone, over 400,000 people die suddenly each year. For many of them, there is no history of any preceding disease of the heart or blood vessels. When an autopsy is performed, the exact cause of death sometimes can not be determined.

For many, there is some atherosclerosis in the coronary arteries, but no complete blockage can be found and there is no evidence of muscle injury. It appears that the heart stopped beating because of some severe physiological disturbance. If so, what precipitated it? Can intense emotional reactions be responsible?

The evidence of association of sudden death with severe psychological stress can be found almost daily in news media. Over a six-year period, Dr. George Engel of the University of Rochester School of Medicine was able to collect 170 examples from newspapers, mostly in the Rochester area.

Examples cited

He became intrigued with the role of psychological stress in causing sudden death and conducted an extensive review of the literature on the subject. His article, which appeared in the *Annals of Internal Medicine* in May, 1971, contained dozens of examples, some of which are so incredible they are hard to believe.

He reported a 14-year-old girl who dropped dead when she was told of her 17-year-old brother's sudden death. An 18-year-old girl dropped dead when told her grandfather, who had raised her, had suddenly died.

A 27-year-old army captain who had commanded the ceremonial troops at President Kennedy's funeral died suddenly 10 days later of an acute cardiac irregularity. The wife of the owner of the motel in which Martin Luther King was assassinated had a stroke the same day and died the following day.

A 43-year-old man died suddenly four hours after receiving a telephone call: "If you want to see your son alive, don't call the cops." It turned out to be his 15-year-old son faking the kidnaper, but the truth was not learned quickly enough to prevent the disaster.

Unfortunately, complete medical investigation of most of Dr. Engel's examples was never conducted, because they were not learned about until they appeared in the newspaper. Even if one discounts the reliability of many of the reports, the numbers alone strongly suggest that there is an association.

Engel reported a 35-year-old man accused of robbery who told his lawyer, "I'm scared to death!" and then dropped dead. Another 40-year-old father collapsed and died as he "cushioned the head of his son lying injured in the street beside his motorcycle."

Although in Dr. Engel's analysis, 59 percent of the sudden deaths were associated with a severe personal loss — such as the death of a loved one — and 34 percent were related to fright, 6 percent were associated with happy occasions. One 56-year-old golfer collapsed and died during the excitement associated with scoring a hole-in-one. A 55-year-old man died when he was reunited with his aged father after a 20-year separation. The father then dropped dead.

Psychological stress at fault

It is probable that most of the sudden deaths are associated with ventricular fibrillation. (Editor's note: Ventricular fibrillation is an irregular disturbance in the ventricular heartbeat accompanied by mechanical paralysis of the ventricles, resulting in circulatory failure and death.) The normal physiological control of the heartbeat is sufficiently disturbed by the psychological stress to cause the chaotic rhythm disturbance.

In many, there may be an underlying heart disease previously unsuspected. In some, none can be found. A good example is a case recently reported in the *New England Journal of Medicine* of a 39-year-old man who developed ventricular fibrillation after "roughhousing" with his two teenage daughters. He survived because of immediately applied cardiopulmonary resuscitation by his wife, who was a nurse. In spite of exhaustive testing, no heart disease could be found. Psychiatric interviews uncovered that the roughhousing had been sexually provocative and had caused severe acute anxiety.

Protect 'high-risk' individuals

Several lessons can be learned from these stories. Individuals who are known to have heart disease should probably be protected from the impact of severe emotional crises. For example, patients in coronary care units who are already frightened should be shielded from the commotion associated with another patient who is being resuscitated from a cardiac arrest. Patients in intensive care units who are fully conscious should be shielded from those in nearby beds who are desperately ill and dying.

To assist in coal volume update



John M. Holmes

John M. Holmes, group leader for the engineering coordination and analysis section of the Chemical Technology Division, Oak Ridge National Laboratory, was appointed to a steering committee by the National Research Council to help revise its reference volume on coal chemistry and technology.

The revision of *Chemistry of Coal Utilization*, the first since 1963, is expected to take two years and will be supervised by a steering committee of 15 American and Canadian

authorities on coal and coal utilization. The Energy Research and Development Administration will fund the project.

Holmes will supervise the updating of the reference book in two major areas: the plastic properties of coal and the treatment of products of coal combustion.

Before coming to Union Carbide in 1957, Holmes worked three years as a process development engineer for the DuPont Company in Newark, Del., and Parlin, N.J., and four years as a process engineer for the Foster Wheeler Corporation in New York.

Holmes received his undergraduate degree in chemical engineering at Clarkson College of Technology in Potsdam, N.Y. He obtained his master's degree at the University of Delaware and his Ph.D. at the University of Tennessee, Knoxville.

Presently, Holmes is teaching courses in process design and engineering economics at UTK. He resides with his wife, Mary, at Warrior Trail in Concord. They have two sons.

next issue . . .

The next issue will be dated April 29. The deadline is April 21.

anniversaries

ORNL

30 YEARS

George A. West, Chemical Technology Division; William D. Todd, Plant and Equipment Division; Juanita C. Anderson, Health Physics Division; Moss C. Brown, Laboratory Protection Division; Ernie McDaniel, Instrumentation and Controls Division.

Individuals being presented with the news of the loss of a loved one should be given maximum emotional and drug support during the first hours after learning of the disaster. During the diagnostic studies following the appearance of an apparently ominous symptom or laboratory finding, the patient needs emotional support in the form of information and reassurance.

Properly and promptly applied, cardiopulmonary resuscitation should save many of those people who "die" because of ventricular fibrillation, even though they have no significant heart disease. It will require training and retraining of many people. The American Heart Association and the American Red Cross recognize these needs and are trying to respond to them by expanding their training programs.

Animals have long been known to perish during acute emotional stress. When immobilized or exposed to excessive stimulation, they may die of fright. Dr. Engel reported the poignant death of a llama a few minutes after seeing her mate of 13 years shot and killed. Humans apparently are equally vulnerable.

John E. Cunningham, Metals and Ceramics Division; Richard A. Ticknor, Plant and Equipment Division; Herman M. Anderson, Operations Division; Rueben V. McCord, Operations Division; Paul W. Reinhardt, Health Physics Division; and Paul A. Agron, Chemistry Division.

25 YEARS

Robert E. Brooksbank, Walter C. Williams, Lester C. Oakes, Tollie N. Jones Jr., Joseph Halperin, Orlen M. Sealand, Hallie O. Eason Jr., Trula K. Gardner, Milton A. Meachem, Keith M. Henry Jr., Wiley W. Johnston Jr., Harry G. Plemons, William D. Carden and Jack N. Money.

20 YEARS

Ernest T. Wilson, Freda R. Cox and William U. Pokela.

Y-12 PLANT

30 YEARS

Benjamin F. Thomas, Beta 4 Forming; and Chester I. Sweeney, Utilities Administration.

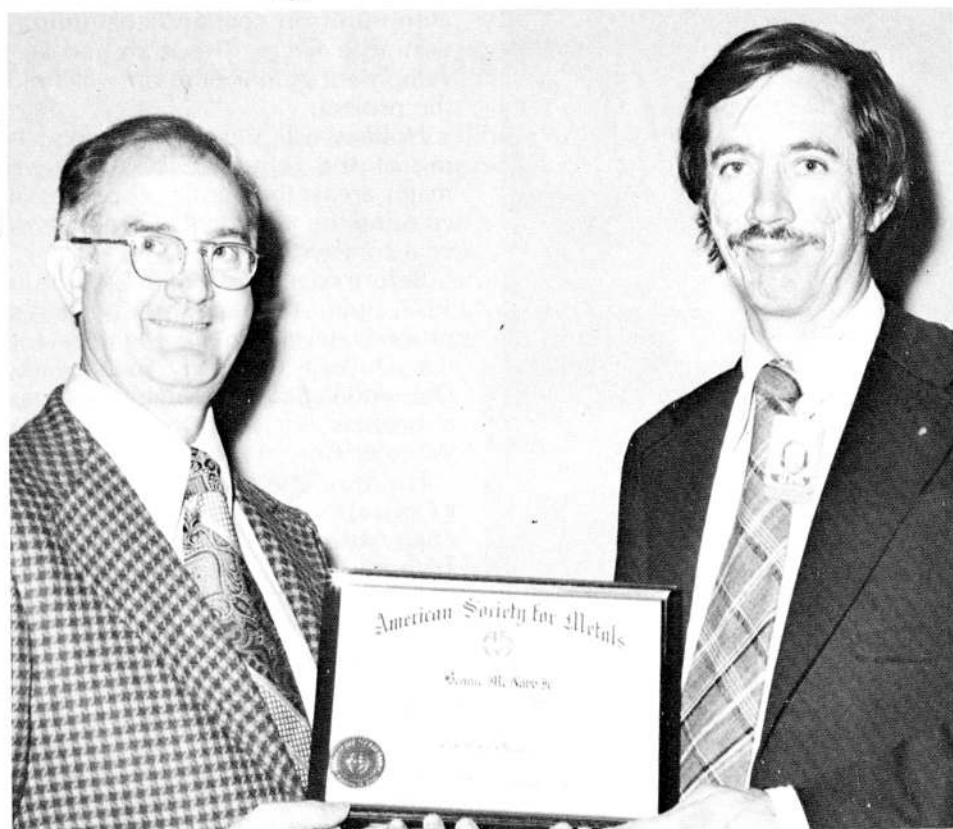
25 YEARS

Robert E. Lively, Lawrence O. Heath Jr., J. D. Hall, Jeanette C. McCown, Fred A. Harris, Robert Q. Love, George H. Caylor, James N. Brewer, Dorothy H. Hubbard, Kenneth E. Smith, Louise A. Warmley, Paul J. Long, Victor D. Sherrod, William L. Boutwell, Roscoe A. Hamrick, Charles G. Peck, Miles C. Dansby, Paul E. Woody, Carl M. Neff, Edith B. Duckworth, Homer D. Bozeman, Joseph D. Davis, Thomas E. McCarroll, Roy B. Dunlap, Alonzo A. Curtis and Lucian C. Peters.

20 YEARS

Bobby L. Grogan, Charlie B. Burris, Earnest W. Henline, Harry C. Webb, Billy A. Cochran and Charlie E. Rose.

McNabb gets local AMS award



Bennie McNabb Jr. (left), Metals and Ceramics Division at Oak Ridge National Laboratory, recently received the Metallurgical Engineering Assistant's Award from the Oak Ridge Chapter, American Society for Metals (ASM). John W. Koger of Y-12's Development Division, chairman of the local chapter, made the presentation.

The award, made for "outstanding service rendered in the role of technical support to materials science and technology," qualifies McNabb for

competition for ASM's national award.

McNabb received his technical training with the Naval Preflight Training Program at the University of Coral Gables and the University of South Carolina. He joined the Laboratory staff in 1951 and has continued his education with course work at The University of Tennessee and the ORNL In-House Training Program.

McNabb, his wife, Betty, and three children reside in Loudon; a married son lives in Pascagoula, Miss.

Richard Raridon to head AAS

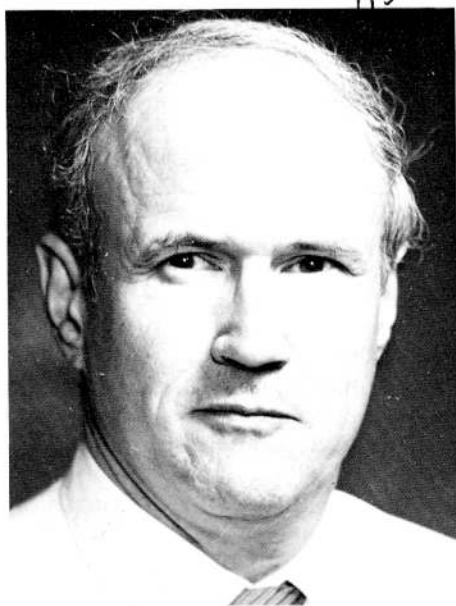
Richard J. Raridon, Computer Sciences Division at Oak Ridge National Laboratory, was named president-elect of the Association of Academies of Science at that organization's recent meeting in Boston.

He also received a Distinguished Service Award for having served four years as secretary-treasurer.

Raridon joined the ORNL Chemistry Division staff in 1962, after serving for four years as associate professor of physical science at Memphis State University. He joined Computer Sciences in 1973.

A native of Iowa, he received his undergraduate degree in mathematics from Grinnell College there in 1953. He attended Vanderbilt University on an Atomic Energy Commission Radiological Physics fellowship and received an M.A. degree in physics in 1955. Having completed the course work for the Ph.D. at Vanderbilt, he carried out a thesis project under K. A. Kraus, ORNL Chemistry Division, while holding a graduate fellowship from the Oak Ridge Institute of Nuclear Studies.

Raridon is past president and a fellow of the Tennessee Academy of Science and is state director of the Academy's Collegiate Division. He is a fellow of the American Association for the Advancement of Science (AAAS), a member of the American Chemical Society and Sigma Xi, and is listed in *American Men of Science*.



Richard J. Raridon

The Association of Academies of Science, founded in 1926 as the Academy Conference, is composed of representatives of the 44 state, regional, and city academies of science which are affiliated with the AAAS.

patents granted

To Ronnie A. Bradley, William H. Miller and John D. Sease, all of ORNL, for "Volumetric Dispenser for Small Particles from Plural Sources."

To Phil H. Hayes, William R. Mixon and David G. Thomas, all of ORNL, for "Support for Dynamic Membrane."

calendar of events

TECHNICAL

April 20

Sigma Xi Public Lecture: "The Global Atmospheric Research Program," Verner E. Suomi, vice chairman of the U.S. Committee for the Global Atmospheric Research Program and U.S. representative to the international GARP Joint Organizing Committee. American Museum of Atomic Energy auditorium, 8 p.m.

Conference on Neutron Transmutation Doped Silicon, organized by the Oak Ridge National Laboratory's Solid State Division and the Office of Industrial Cooperation, under the sponsorship of the Energy Research and Development Administration. American Museum of Atomic Energy auditorium, 9 a.m.

Biology Division Seminar: "The Mechanism of Biotin Enzymes," Irwin Rose, Institute for Cancer Research. Tower I Conference Room, Building 9207, 3 p.m.

April 21

Environmental Sciences Division public seminar: "The Position of the National Wildlife Federation on Alternate Methods of Energy

Development," Thomas L. Kimball, executive vice president, National Wildlife Federation, Washington, D.C. American Museum of Atomic Energy, 7:30 p.m.

April 22

Distinguished Lecturer Seminar: "The Gap in Intercellular Communication," J. P. Revel, California Institute of Technology. Large Conference Room, Building 9207, 3 p.m.

April 29

Cellular Molecular Sciences Seminar: "Autoregulation of Isoleucine-Valine Biosynthesis," G. Wesley Hatfield, Department of Medical Microbiology, University of California, Irvin. Tower I Conference Room, Building 9207, 3:30 p.m.

COMMUNITY

April 23

Oak Ridge Community Playhouse presents: "The Pursuit of Happiness." Playhouse 8:20 p.m. Admission: \$3; students \$1.50 (Fridays only). Other performances April 24 and 30, May 1, 7 and 8.



**Birkhoff
fellow of
APS**

Robert D. Birkhoff, Health Physics Division at Oak Ridge National Laboratory, has been named a Fellow of the American Physical Society (APS).

A Laboratory staff member since 1955, he is associated with Health Physics' biological and radiation physics section.

Birkhoff, a native of Chicago, received the B.S. degree from Massachusetts Institute of Technology in 1945 and the Ph.D. from Northwestern University in 1949. He then joined the staff at The University of Tennessee, where he served for eight years as associate professor of physics before coming to ORNL. He currently is professor of physics there in addition to his research responsibilities.

In addition to the APS, Birkhoff's professional memberships include the Southeastern Section of the American Physical Society and the Health Physics Society. He has served on special committees for both.

His home is at 1433 Whitower Drive, Knoxville.



UNION CARBIDE CORPORATION

NUCLEAR DIVISION
P. O. BOX Y, OAK RIDGE, TENNESSEE 37830

ADDRESS CORRECTION REQUESTED

BULK RATE
U.S. Postage
PAID
Union Carbide
Corporation

